

**REMARKS**

Applicants thank the Examiner for total consideration given the present application. Claims 12, 14-23, and 25-37 were pending prior to the Office Action. Claims 12, 14-22, 28-32, 35, and 37 have been cancelled and claims 38-43 have been added through this Reply. Therefore, claims 23, 25-27, 33, 34, 36, and 38-43 are currently pending. Claims 23, 33, 34, and 36 are independent. Claims 23, 33, 34, and 36 have been amended through this Reply. Applicants respectfully request reconsideration of the rejected claims in light of the amendment and remarks presented herein, and earnestly seek timely allowance of all pending claims.

**Rejection Under 35 U.S.C. § 112, 1st Paragraph (Enablement and/or Written Description)**

The Examiner has objected to the specification and rejected claims 12 and 14-22 under 35 U.S.C. § 112, 1st Paragraph, as failing to comply with the written description requirement. These claims have been cancelled through this Reply rendering the rejection as moot.

**Rejections under 35 U.S.C. §103**

Claims 12, 14, 16, 18, 22, 23, 25, 27, 29, and 33 stand rejected under 35 U.S.C. § 103 as being unpatentable over Tomizawa et al. (U.S. Patent Publication No. 2003/0118345)[hereinafter “Tomizawa”].

Claims 15 and 26 stand rejected under 35 U.S.C. § 103 as being unpatentable over Tomizawa and further in view of Naito et al. (U.S. Patent No. 5,052,051)[hereinafter “Naito”].

Claims 17 and 28 stand rejected under 35 U.S.C. § 103 as being unpatentable over Tomizawa further in view of Sawada et al. (WO 03/026239)[hereinafter “Sawada”] and Tago et al. (U.S. Patent Publication No. 2004/0165895)[hereinafter “Tago”].

Claims 19 and 30 stand rejected under 35 U.S.C. § 103 as being unpatentable over Tomizawa further in view of Hayee et al. (U.S. Patent No. 7,209,671)[hereinafter “Hayee”].

Claims 20, 21, 31, 32, and 34-37 stand rejected under 35 U.S.C. § 103 as being unpatentable over Tomizawa further in view of Tago and Hayee.

These rejections are respectfully traversed.

Claims 12, 14-22, 28-32, 35, and 37 have been cancelled through this Reply rendering the rejection of these claims as moot.

Independent claims 23, 33, 34, and 36 have been amended to further clarify that operational circuit (claims 34, and 36) or the corresponding step (claims 23 and 33) “performs a logical AND function when the level of the predetermined thresholds is set to a value smaller than an optimum threshold that is used when discriminating the optical input signals divided into the paths with a single discriminator, and . . . performs a logical OR function when the level of the predetermined thresholds is set to a value larger than the optimum threshold.” (Emphasis added.)

Note that the above-identified feature was previously recited in claims 35 and 37.

To establish a *prima facie* case of obviousness, the prior art reference (or references when combined) must teach or suggest all the claim limitations. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). Additionally, there must be a reason why one of ordinary skill in the art would modify the reference or combine reference teachings to obtain the invention. A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. *KSR Int'l Co. v Teleflex Inc.*, 82 USPQ2d 1385 (U.S. 2007). There must be a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. *Id.* The Supreme Court of the United States has recently held that the "teaching, suggestion, motivation test" is a valid test for obviousness, albeit one which cannot be too rigidly applied. *Id.* Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness. *Id.*

In this instance, it is respectfully submitted that none of the applied prior art references, either alone or in combination, teaches or suggests the above-identified feature of claims 23, 33, 34, and 36.

First, Tomizawa suggests using an OR circuit or an exclusive OR circuit depending on the threshold value of the decision circuits 3-11 and 3-12. Particularly, Tomizawa discloses that when threshold values of the decision circuits 3-11 and 3-12 are set lower than the standard threshold value, to achieve the same effect as the “OR circuit” or the “exclusive OR circuit”, these logics are inverted. In other words, when threshold values of the decision circuits 3-11 and 3-12 are set lower than the standard threshold value, a NOR circuit or an exclusive NOR circuit

is used by Tomizawa to achieve the same effect as the “OR circuit” or the “exclusive OR circuit”, respectively. (*See paragraphs [0069]-[0072].*)

There is no disclosure that Tomizawa uses a logical “AND” function as now recited in the above-identified independent claims. Indeed, Tomizawa does not want to use a logical “AND” function since such function would essentially produce a different effect than a NOR circuit or an exclusive NOR circuit.

Another requirement to establish a *prima facie* case of obviousness is that the cited reference must be considered in its entirety. *See M.P.E.P. 2141.02. If the proposed modification renders the cited reference unsatisfactory for its intended purpose, then by definition, there is no suggestion or motivation to make the proposed modification.* See M.P.E.P. 2143.01. Thus, if the proposed modification renders the cited reference unsatisfactory for its intended purpose, the rejection must also fail.

In this regard, the Examiner appears to suggest combining Hayee’s AND circuit into Tomizawa’s digital transmission system. (*See, e.g., page 31, section 11 of the Office Action.*) It is respectfully submitted that the Examiner’s proposed combination would destroy the functionality of Tomizawa because the proposed modification would render Tomizawa unsatisfactory for its intended purpose.

As demonstrated above, Tomizawa would not be motivated to replace the NOR circuit or the exclusive NOR circuit with an AND circuit since the AND circuit would produce a different effect than the NOR or the exclusive NOR circuits. Further, even if, *assuming arguendo*, there is sufficient motivation to combine Tomizawa with Hayee (which Applicants do not admit), the suggested combination would destroy the functionality of Tomizawa since Tomizawa wants to achieve the same effect as an OR circuit or an exclusive OR circuit not the effect of an AND circuit.

At least for the foregoing, it is evident that the combined invention of Tomizawa and Hayee cannot teach or suggest an operational circuit (claims 34, and 36) or the corresponding step (claims 23 and 33) that “performs a logical AND function when the level of the predetermined thresholds is set to a value smaller than an optimum threshold that is used when discriminating the optical input signals divided into the paths with a single discriminator, and .

. . performs a logical OR function when the level of the predetermined thresholds is set to a value larger than the optimum threshold." (Emphasis added.)

Therefore, for at least these reasons, independent claims 23, 33, 34, and 36 are distinguishable from Tomizawa and Hayee

Naito, Sawada, and Tago have not been, and indeed cannot be, relied upon to fulfill the above-noted deficiency of Tomizawa and Hayee.

Therefore, for at least these reasons, it is respectfully submitted that independent claims 23, 33, 34, and 36 and their corresponding dependent claims, including new dependent claims 38-43, are allowable over the applied prior art references.

### CONCLUSION

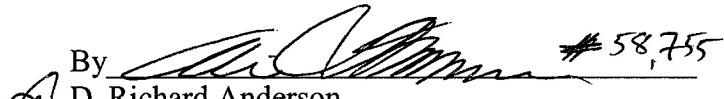
All rejections raised in the Office Action having been addressed, it is respectfully submitted that the present application is in condition for allowance. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claims does not necessarily signify concession of unpatentability of the claim prior to its amendment.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Ali M. Imam Reg. No. 58,755 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Dated: September 30, 2010

Respectfully submitted,

By   
D. Richard Anderson  
Registration No.: 40439  
BIRCH, STEWART, KOLASCH & BIRCH, LLP  
8110 Gatehouse Road, Suite 100 East  
P.O. Box 747  
Falls Church, VA 22040-0747  
703-205-8000